ma noviſſimum, Dd ad Ff ut PE ad PS, & inde Ff æqualis $\frac{PS \times Dd}{PE}$; & $DEq. \times Ff$ æquale Dd in $\frac{DEq. \times PS}{PE}$, & propterea vis laminæ $EFfe$ eſt ut Dd in $\frac{DEq. \times PS}{PE}$ & vis particulæ ad diſtantiam PF exercita conjunctim, hoc eſt (ex Hypotheſi) ut $DN \times Dd$, ſeu area evaneſcens $DNnd$. Sunt igitur laminarum omnium vires in corpus P exercitæ, ut areæ omnes $DNnd$, hoc eſt Sphæræ vis tota ut area tota $ABNA$. Q. E. D.

Corol. 1. Hinc ſi vis centripeta ad particulas ſingulas tendens, eadem ſemper maneat in omnibus diſtantiis, & fiat DN ut $\frac{DEq. \times PS}{PE}$: erit vis tota qua corpuſculum a Sphæra attrahitur, ut area $ABNA$.

Corol. 2. Si particularum vis centripeta ſit reciproce ut diſtantia corpuſculi a ſe attracti, & fiat DN ut $\frac{DEq. \times PS}{PEq.}$: erit vis qua corpuſculum P a Sphæra tota attrahitur ut area $ABNA$.

Corol. 3. Si particularum vis centripeta ſit reciproce ut cubus diſtantiæ corpuſculi a ſe attracti, & fiat DN ut $\frac{DEq. \times PS}{PEqq.}$: erit vis qua corpuſculum a tota Sphæra attrahitur ut area $ABNA$.

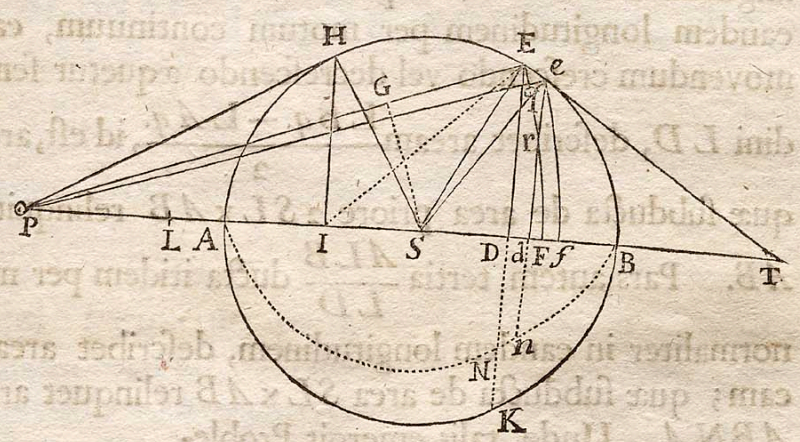
Corol. 4. Et univerſaliter ſi vis centripeta ad ſingulas Sphæræ particulas tendens ponatur eſſe reciproce ut quantitas V, fiat autem DN ut $\frac{DEq. \times PS}{PE \times V}$; erit vis qua corpuſculum a Sphæra tota attrahitur ut area $ABNA$.

Prop. LXXXI. Prob. XLI.

Stantibus jam poſitis, menſuranda eſt area $ABNA$.

A puncto P ducatur recta PH Sphæram tangens in H, & ad axem PAB demiſſa Normali HI, biſecetur PI in L; & erit (per

(per Prop. 12, Lib. 2. Elem.) $PEq.$ æquale $PSq. + SEq. + 2PSD$. Eſt autem $SEq.$ ſeu $SHq.$ (ob ſimilitudinem triangulorum SPH, SHI) æquale rectangulo PSI. Ergo $PEq.$ æquale eſt contento ſub PS & $PS + SI + 2SD$, hoc eſt, ſub PS & $2LS + 2SD$, id eſt, ſub PS & $2LD$. Porro DE *quad* æquale eſt $SEq. - SDq.$ ſeu $SEq. - LSq. + 2SLD - LDq.$ id eſt, $SLD - LDq. - ALB$. Nam $LSq. - SEq.$ ſeu $LSq. - SAq.$ (per Prop. 6 Lib. 2. Elem) æquatur rectangulo ALB. Scribatur itaq; $2SLD - LDq. - ALB$ pro $DEq.$ & quantitas $\frac{DEq. \times PS}{PE \times V}$, quæ ſecundum Corollarium quartum Propoſitionis præcedentis eſt ut longitudo ordinatim applicatæ DN, reſolvet ſeſe in tres partes $\frac{2SLD \times PS}{PE \times V} - \frac{LDq. \times PS}{PE \times V} - \frac{ALB \times PS}{PE \times V}$: ubi ſi pro V ſcribatur ratio inverſa vis centripetæ, & pro PE medium proportionale inter PS & $2LD$; tres illæ partes evadent ordinatim applicatæ linearum totidem curvarum, quarum areæ per Methodos vulgatas innoteſcunt. Q. E. F.



Exempl. 1. Si vis centripeta ad ſingulas Sphæræ particulas tendens ſit reciproce ut diſtantia; pro V ſcribe diſtantiam PE, dein $2PS \times LD$ pro $PEq.$, & fiet DN ut $SL - \frac{1}{2}LD - \frac{ALB}{2LD}$

Pone